Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V / Synthetic Minor Renewal & PSD Permit
V-05-087
R.R. Donnelley and Sons Company
120 Donnelley Drive
Glasgow, Kentucky 42141
December 2, 2005
Elahe Houshmand, Reviewer
Plant I.D. #: 21-009-00029
A.I. #: 84
Activity #: APE20050001

SOURCE DESCRIPTION:
R.R. Donnelley is in the magazine lithographic printing and binding industry (SIC 2752, Commercial Printing, Lithographic) and is located in Barren county that is classified as an attainment or unclassifiable for NO2, CO, SO2, PM10 and ozone pursuant to Regulation 401 KAR 51:010. This source is major for volatile organic compounds (VOC) and is operating under Title V / Synthetic Minor permit # V-99-034 (Revision 5). With the authorization of this permit, the source will have a total of fourteen (14) heatset lithographic presses to print magazines. All presses are connected with a collection plenum where the emissions are captured and controlled by five (5) thermal oxidizers.

COMMENTS:
There are two pending application for this facility:

1. **Title V/ PSD Application -** On May 12, 2005, R.R. Donnelley submitted an application for a Title V/PSD construction / operating permit for their Glasgow, Kentucky facility. The facility is requesting to add two new printing presses (KMMS-539 and KMMS-541) and remove two existing presses (KMMS-530 and KMMS-531). This application is considered to be one PSD project relative to the last permit revision to install presses KMMS-506 and KMMS-540. The source is proposing that the allowable VOC emissions from these four presses be limited to 58 tons per year. As projected VOC emissions exceed the significant amount of 40 tons per year the project is subject to PSD review. As a result, the facility has supplemented the application with a review of Best Available Control Technology for the process.

2. **Renewal Application -** On July 18, 2005, R.R. Donnelley submitted an application for a Title V/Synthetic Minor operating renewal permit for their Glasgow, Kentucky facility. With the application, the facility also submitted a CAM (Compliance Assurance Monitoring) plan as part of their Title V permit renewal process.

Both of these applications will be addressed with this review.

TYPE OF CONTROL AND EFFICIENCY

The source employed an integrated system of five thermal oxidizers to control VOC and HAP emissions from the lithographic printing presses of the plant. The new offset lithographic presses (EP #19 and 20) will be connected to all five thermal oxidizers in multiplex configuration to control VOC and HAP emissions.

To comply with BACT Determination and CAM Plan the thermal oxidizer control system while receiving emissions from the presses shall have a minimum destruction efficiency of 97%.

Emission factors and their source

MSDS
Engineering calculations
Non-CTG RACT

APPLICABLE REGULATIONS:

401 KAR 50:012. General Application, Section 1(2)

401 KAR 51:017, Prevention of significant deterioration of air quality
Prevention of Significant Deterioration of Air Quality applicable to major construction or modification commenced after September 22, 1982.
Applicable to Press #17, 18, 19, &20
Presses #17-20 have VOC emissions limitation based on applicability of Regulation 401 KAR 51:017.
Applicable to Press #7-11, 13, &16
Synthetic minor limitations apply to presses #7-11, 13, &16 preclude the applicability of State Regulation 401 KAR 51:017.

40 CFR Part 64, Compliance assurance monitoring (CAM), applies since for an emission point a control device is used to achieve compliance with an emission limitation and the pre-control device emissions are potentially greater than 100 tons/yr.

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to each affected facility that emits or may emit potentially hazardous matter or toxic substances.

EMISSION AND OPERATING CAPS DESCRIPTION:

A TOXIC ANALYSIS:

R.R. Donnelley has ninety (90) days from issuance date of this permit to submit an air toxics modeling analysis, to the Division of Air Quality, to show compliance with 401 KAR 63:020, Potentially Hazardous Matter or Toxics Substances.

B. FROM BACT DETERMINATION:

1. The total VOC emissions from press # 17, 18, 19 and 20 shall not exceed 58 tons during any consecutive twelve (12) month period.
2. The thermal oxidizer control system while receiving emissions from the presses shall have a minimum destruction efficiency of 97%.
3. Fountain Solution – VOC no greater than 2% VOC as applied
4. Blanket and Roller Washes – VOC composite partial vapor pressure no greater than 10 mm Hg at 20º C or 2.5 lb/gal as applied

The emissions of single HAP from press # 17 - 20 shall not exceed nine (9) tons during any consecutive twelve (12) month period. The emissions of combined HAPs from press # 17 - 20 shall not exceed twenty-two and half (22.5) tons during any consecutive twelve (12) month period.

The total VOC emissions from EP # 16 shall not exceed 36 tons during any consecutive twelve (12) month period.

The total VOC emissions from EP # 13 shall not exceed 40 tons during any consecutive twelve (12) month period.

The total VOC emissions from EP # 11 shall not exceed 53 tons during any consecutive twelve (12) month period.

The total VOC emissions from EP # 10 shall not exceed 53 tons during any consecutive twelve (12) month period.

The total VOC emissions from EP # 9 shall not exceed 40 tons during any consecutive twelve (12) month period.

The total VOC emissions from EP # 8 shall not exceed 40 tons during any consecutive twelve (12) month period.

The total VOC emissions from EP # 7 shall not exceed 40 tons during any consecutive twelve (12) month period.

CREDIBLE EVIDENCE:
This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.

Title V/ PSD Application
Prevention of Significant Deterioration (PSD) Review

PSD Applicability:
R.R. Donnelley is in the magazine lithographic printing and binding industry (SIC 2752, Commercial Printing, Lithographic) and is located in Barren county that is classified as an attainment or unclassifiable for NO_2, CO, SO_2, PM_{10} and ozone pursuant to Regulation 401 KAR 51:010.
The proposed modification involves addition of the following four printing presses:

i. Offset heatset lithographic press KMMS-540
ii. Offset heatset lithographic press KMMS-506 with overcoater
iii. Offset heatset lithographic press KMMS-539
iv. Offset heatset lithographic press KMMS-541

The source is requesting the allowable VOC emissions from these four presses be set at 58 tons per year.

PSD Pollutant(s):
The PSD review applies to every pollutant that the proposed plant will emit in significant quantities, i.e., in amounts that will exceed the respective significant net emission rate. Emissions of NO_X, SO_2 and PM_{10} from the proposed modification are less than the PSD significant emission rates, only VOC emissions will exceed the significant amount of 40 tons per year, as defined in 401 KAR 51:001 Section 1(146). As a result, the proposed project is subject to PSD review for VOC emissions.

PSD REVIEW:
For each pollutant subject to Regulation 401 KAR 51:017, the following analyses are required:

1. A demonstration that Best Control Technology will be employed (401 KAR 51:017, Section 8);
2. An analysis of the air quality impact of the proposed modification on the Ambient Air Quality Standard and PSD increment allowable (401 KAR 51:017, Sections 9-11);
3. An analysis of additional impact (401 KAR 51:017, Section 13); and
4. An analysis of sources impacting class I areas, additional requirements (401KAR 51:017, Section 14).

This review demonstrates that all regulatory requirements will be met and includes a proposed permit that establishes the enforceability of all applicable requirements.

Best Control Technology Review

R.R. Donnelley has presented in their permit application, a study of the best available control technology (BACT) for VOC at each affected facility in the proposed modification.

The Division has reviewed the proposed control technology in conjunction with information available in U.S. EPA's RACT/BACT/LAER Clearinghouse, the BACT/LAER Information System (BLIS) database and other sources and concurs with the applicants analysis. A summary of the proposed control technology is presented below.

The proposed installation includes two (2) new plus two (2) recently permitted heatset web lithographic printing presses, applying inks to a paper substrate through the use of the offset lithographic printing process. Volatile organic compound (VOC) emissions from these presses result from the use of inks, fountain solution additives, and cleaning solvents.

Emissions from the dryers of these presses will be ducted to the existing pollution control system at the Glasgow facility, consisting of five (5) thermal oxidizers controlling all of the current and proposed presses in a multiplex configuration.

The source proposes that **BACT** for the heatset web lithographic printing presses be defined as an add-on pollution control system for the press dryer exhaust combined with low VOC and/or low vapor pressure materials as follows:

- Thermal Oxidizer Control System - minimum 97% destruction efficiency for VOC
- Fountain Solution – VOC no greater than 2% VOC as applied
- Blanket and Roller Washes – VOC composite partial vapor pressure no greater than 10 mm Hg at 20º C or 2.5 lb/gal as applied

The facility currently operates12 presses controlled by a thermal oxidizer control system. The source believes that the thermal oxidizer control system is at the top of a top-down BACT analysis and is in compliance with BACT based on the discussion below.

<u>Heatset Web Lithographic Printing</u>

In heatset web lithographic printing, the ink is set by volatilization of the ink oil VOC at elevated temperature (approximately 300-350ºF) in natural gas fired press dryers. The VOCs are evolved from the process in the dryer, which operates under negative pressure relative to the surrounding pressroom, and are exhausted from the dryer to a pollution control device. Add-on pollution controls that are used with this process include catalytic oxidizers, recuperative thermal oxidizers and regenerative thermal oxidizers.

A review of EPA's RACT/BACT/LAER Clearinghouse for the past 10 years revealed only a few instances where BACT or LAER determinations have been made for heatset lithographic printing operations. In addition to those determinations found in the EPA clearinghouse, recent permits issued to RR Donnelley facilities include a LAER determination for a facility in the Atlanta area and state BACT determinations for facilities in Indiana and Pennsylvania. All of these determinations are summarized in Table BACT-1. With one exception, the BACT or LAER determination has been based on the use of an add-on control device, frequently combined with requirements for low VOC fountain solutions (generally < 5% VOC in the as-applied fountain solution) and

low VOC (30% VOC or less) or low vapor pressure (VOC composite vapor pressure of 10 mm Hg or less at 20ºC) cleaning solvents.

The source reviewed the RACT/BACT/LAER Clearinghouse for other determinations for coating or related operations using pollution control devices on or after January 1, 2000. These determinations are also summarized in Table BACT-2.

Table BACT-1 - BACT and LAER Determinations for Heatset Web Lithographic Printing

ID	Date	BACT/LAER	Determination	Facility	Materials Limits
Georgia NSR Permit 2752-121-0840-E-01-0	4/26/05	LAER	97% RTO, Low Vapor Pressure or Low VOC Cleaning Solvent, Low VOC Fountain Solution	Williams Printing	Cleaning solution with 10 mm Hg VOC composite partial pressure (CPP) at 68 deg. F, or 2.5 lb/gal. Fountain solution VOC < 5% by volume as applied.
Indiana Title V Permit 085-20472-00009	4/18/05	State BACT	97% RTO, Low Vapor Pressure or Low VOC Cleaning Solvent, Low VOC Fountain Solution	RR Donnelley - Warsaw	Cleaning solution with 10 mm Hg VOC composite partial pressure (CPP) at 68 deg. F, or 2.5 lb/gal. Fountain solution VOC < 3% by volume as applied.
Pennsylvania Plan Approval 19-00026A	3/11/05	State BACT	97% (or 20 ppm outlet maximum) RTO, Low Vapor Pressure Cleaning Solvent, Low VOC Fountain Solution	Haddon Crtaftsment, Inc.	Cleaning solution with 3 mm Hg VOC composite partial pressure (CPP) at 68 deg. Fountain solution VOC < 1% by volume as applied.
OK-0097	2/3/04	BACT	97.5% Oxidizer	QuadGraphics	Only a portion of fugitive VOC emissions from the fountain solution & automatic blanket wash will be captured and controlled thru the thermal oxidizer. Fugitive emissions are limited by VOC content, vapor pressure Limits and work practice procedures. Limits not specified.
WV-0013	8/30/01	BACT	97.5% Thermal Oxidizer	QuadGraphics	No composition limits specified
OK-0054	8/21/01	BACT	97.5% Oxidizer	QuadGraphics	Only a portion of fugitive VOC emissions from the fountain solution & automatic blanket wash will be captured and controlled thru the thermal oxidizer. Fugitive emissions are limited by VOC content, vapor pressure Limits and work practice procedures. Limits not specified.
IL-0070	3/14/01	LAER	97% Oxidizer, Low Vapor Pressure or Low VOC Cleaning Solvent, Alcohol Free Fountain Solution	Quebecor World	Cleaning solution with 5.0 mm Hg VOC composite partial pressure (CPP) at 68 deg. F, or 30% volatile organic matter by wt. and VOC CPP <10 mm of Hg. Fountain solution has no alcohol and VOC = 0.5% by volume as applied.
IL-0069	9/6/00	BACT	97% Oxidizer, Low Vapor Pressure or Low VOC Cleaning Solvent, Alcohol Free Fountain Solution	Quebecor World	Cleaning solution with 5.0 mm Hg VOC composite partial pressure (CPP) at 68 deg. F, or 30% volatile organic matter by wt. and VOC CPP <10 mm of Hg. Fountain solution has no alcohol and VOC = 0.5% by volume as applied.
WI-0176	8/14 /00	BACT	97.5% Thermal Oxidizer	QuadGraphics	No composition limits specified
WI-0153	4/25/00	BACT	97.5% Thermal Oxidizer	QuadGraphics	No composition limits specified
WI-0140	7/13/99	BACT	97.5% Thermal Oxidizer	QuadGraphics	No limits on VOC content
WI-0084	3/8/99	BACT	97.5% Thermal Oxidizer	QuadGraphics	No composition limits specified
GA-0081	4/28/98	BACT	95% Oxidizer, VOC Limits on Coatings and Solvents	World Color	Limits on VOC content of coatings and solvents not specified. Use of covered containers for rags and towels.
IL-0055	3/1/98	LAER	98% Oxidizer, VOC Limits on Fountain Solution and Cleaning Solvent	Brown Printing Company	Chilled resservoir or low VOC fountain solution. Low vapor pressure or low VOC cleaning solution. Limits not specified.
WI-0188	6/24/97	LAER	Use of Good Operating Procedures with Solvents Used in Cleaning Operation	Golden Books Publishing Company	Use of good operating procedures with solvents used in clean up operations. No composition limits specified.
CA-0779	5/30/97	LAER	RTO (Efficiency not specified)	Merced Color Press	No composition limits specified
TN-0091	4/14/97	BACT	97% Thermal Oxidizer	World Color	VOC emissions limited to 3.51% of the mass of VOC per mass of all ink, fountain solution, coating, and blanet wash used (including water and exempt compounds)

Table BACT-2 - BACT and LAER Determinations for Other Coating Sources Using VOC Control Devices

ID	Date	BACT/LAER	Determination	Process	Facility
IA-0073	9/13/04	BACT	95% Thermal Oxidizer	Flexographic Printing	American Packaging Corporation
KY-0097	7/30/04	BACT	Catalytic Oxidizer (Efficiency not specified)	Paint Booth	Toyota Motor Manufacturing Kentucky, Incorporated
AL-0191	3/23/04	BACT	95% Thermal Oxidizer	Miscellaneous Sealers and Adhesives, Top Coat Operations	Hyundai
IN-0113	2/3/03	BACT	RTO (Efficiency not specified)	Spray Booths	Masterbrand Cabinets, Inc.
PA-0206	1/9/03	Other	95% Catalytic Oxidizer	Flexographic Printing	C-P Convertors
AR-0059	1/7/03	BACT	90% RTO/TCO	Oriented Strandboard Press	Georgia Pacific Oriented Strandboard
AL-0192	10/18/02	BACT	95% RTO	Primer/Surfacer Operations	Honda Manufacturing
WI-0193	9/25/02	BACT	95% Catalytic or Regenerative Oxidizer	Flexographic Printing	Pecheney Plastic Packaging
WI-0192	8/21/02	BACT	95% Catalytic Oxidizer	Flexographic Printing	Bemis Films - BSF Facility
MI-0339	7/18/02	BACT	Thermal Oxidizer (Efficiency not specified)	Solvent-borne Adhesive Promoter	Albar Industries, Inc.
WI-0189	6/11/02	BACT	95% Catalytic Oxidation System	Flexographic Printing	Curwood, Inc.
CA-0986	5/7/02	LAER	95% Regenerative Thermal Oxidizer	Coating Operation	Latex Technology
SC-0074	4/8/02	BACT	95% TCO	Press	Kronotex, USA
MI-0351	4/2/02	BACT	95% RTO	Guidecoats and Topcoats	General Motors - Lansing Craft Center
MN-0044	9/27/01	BACT	96% Thermal Oxidizer	Pressure Sensitive Tapes and Labels Coating	3M Hutchinson
MI-0326	9/26/01	BACT	95% RTO	Electrocoats and Topcoats	General Motors - Delta Township Assembly
CA-0985	8/20/01	LAER	95% Thermal Oxidizer	Coating Operation	Watkins Manufacturing
WI-0169	6/22/01	BACT	96.7% Thermal Oxidizer	25 Maker	3M
WI-0143	6/1/01	BACT	95% Catalytic Oxidizer System	Flexographic Printing	Bemis Films
MS-0045	4/2/01	BACT	95% RTO	Topcoat System	Nissan North America, Inc.
MI-0260	1/17/01	Other	95% RTO	Paintinfg Plastic Automotive Parts	Venture Industries, Inc.
MI-0352	11/3/00	BACT	98% Oxidizer	Flexographic and GravurePrinting	Pollard (US) Ltd.
FL-0213	9/26/00	BACT	95% Regenerative Thermal Oxidizer	Spray Booths	Nailite International, Inc
VA-0246	8/18/00	BACT	97.5% Incinerator	Coating and Bonding	Dynax America Corporation
MI-0279	7/26/00	BACT	RTO (Efficiency not specified)	Plaxtic Parts Coating	Textron Automotive - Evart Operations
IN-0103	6/28/00	BACT	95% RTO	Topcoat nad Guidecoat	AM General
TN-0088	6/6/00	BACT	Recuperative Thermal Oxidizer (Efficiency not specified)	Topcoiat	Saturn Corporation
MI-0281	4/5/00	Other	81% Catalytic Oxidizer System	Piston Coating	E/M Eengineered Coating Solutions
MI-0280	3/27/00	BACT	Regenerative Thermal Oxidizer (Efficiency not specified)	Dip/Spin Coaters	Depor Industries, Inc.
LA-0161	3/24/00	BACT	95% Oxidizer	Topcoat System	General Motors
AL-0142	2/29/00	BACT	95% RTO	Topcoat and Clearcoat	Honda Manufacturing
MI-0309	1/6/00	Other	RTO (Efficiency not specified)	Guidecoat Application	Ford Motor Company - Dearborn Assembly
MI-0286	1/6/00	BACT	95% RTO	Surface Coating	Steelcase Wood Furniture

Review of the information in Tables BACT-1 and BACT-2 reveals that add-on control devices with destruction efficiencies ranging from 90% to 98% have been established as BACT or LAER for a variety of VOC sources, including heatset lithographic printing operations. Consistent with these previous determinations, a thermal oxidizer control system with minimum destruction efficiency of 97% can be established as part of the BACT for this operation.

R.R. Donnelley proposes that the control efficiency for the thermal oxidizer system combined with the materials proposed for use on the heatset presses that are a part of the permit application are consistent with the materials that have served as the basis for BACT or LAER at other printing operations. The most recent LAER determinations (IL-0070, March 14, 2001 and the recent determination for Williams Printing by the Georgia EPD) were based on use of a 97% efficient pollution control device and limitations on the VOC content and/or vapor pressure of press ready fountain solution and cleaning solvents. The source believes that limitations on these materials be considered as part of the BACT evaluation for the heatset press operations, namely press ready fountain solution limited to 2 percent VOC by weight, and cleaning solvent VOC limited to 2.5 lb/gal or VOC composite partial vapor pressure limited to 10 mm Hg or less at 20ºC.

Review of the materials anticipated to be used on the heatset presses confirm that the fountain solutions and cleaning solvents proposed for use on these presses will satisfy these requirements. Since the materials anticipated to be used on these presses will satisfy the low VOC or low vapor pressure requirements that have been the basis for previous BACT or LAER determinations for this process, the source requests that BACT be established as use the proposed 97% efficient control device and use of "compliant" materials.

2. Air Quality Impact Analysis

Pursuant to Regulation 401 KAR 51:017, Section 11, an application for a PSD permit shall contain an analysis of ambient air quality impacts in the area that the proposed major modification will affect for each regulated pollutant for which a NAAQS has been established and for which there will be a significant net emission increase as defined in Section 221(a) of 401 KAR 51:001. The purpose of this analysis shall be to demonstrate that allowable emissions from the proposed source will not cause or contribute to air pollution in violation of:

(i) A national ambient air quality standard in an air quality control region; or
(ii) An applicable maximum allowable increase over the baseline concentration in an area.

The magnitude and locations of ambient concentrations due to the proposed modifications were not determined because there is neither a single source atmospheric dispersion model available to predict ozone concentrations nor is there a National Ambient Air Quality Standard or a PSD "increment " for VOC with which to compare estimated ozone levels from the source.

The Division has waived the requirement to include an air quality impact analysis for ozone. Pursuant to 401 KAR 51:017, Section 7 (5)(a), the Division may exempt a project that would result in a net emission of less than 100 tons per year of VOCs from an ambient air impact analysis, including the gathering of ambient air quality data. The Oakland Monitoring site located approximately 25 miles from Glasgow is showing compliance with all ambient ozone standards.

3. Additional Impact Analysis

The additional impact analyses addresses construction and growth impacts, impact on soil and vegetation, analysis of endangered species and impact on visibility in Class I areas.

The activities that will be performed within the building structures, where the proposed construction/operation project will occur, are not anticipated to have an adverse affect on human health or welfare. No noticeable residential growth is expected from the increased production at the facility. No anticipated affect on commercial growth is expected from the increased production. No significant adverse impact on soil is anticipated due to the changes being proposed. Maximum impacts from the proposed printing presses should be in the immediate vicinity of the facility and it is highly unlikely due to the location of the facility that endangered species would reside in these maximum impact areas. The nearest Class I area is 20 miles from the R.R. Donnelley Glasgow facility but as a relatively small VOC source, the visibility impact should be minimal and, therefore, a visibility monitoring is not required. Estimated emissions of NO_X, SO_2 and PM_{10} are less than the PSD significant emission rates.

4. An analysis of the impact on any existing Class I Areas; Additional Requirements

The nearest Class I area is Mammoth Cave National Park located 20 miles from the site. As stated previously in **Additional Impact Analysis**, the source will not have any impact on the Class I area.

Renewal Application
COMPLIANCE ASSURANCE MONITORING (CAM) PLAN

Pollution Control System for VOC Emissions From Lithographic Printing Presses

CAM Applicability:
In accordance with 40 CFR Part 64 – Compliance Assurance Monitoring (CAM), the RR Donnelley Glasgow Manufacturing Plant is required to submit a CAM Plan as part of the Title V permit process. This CAM Plan addresses the VOC pollution control system (PCS) consisting of one (1) MEGTEC Regenerative Thermal Oxidizers (RTO), one (1) L&E Regenerative Thermal Oxidizer, and three (3) KATEC Recuperative Thermal Oxidizer, Emission Points 57, 63, 40, 43, and 46 respectively and the process units (press dryers) that vent to these devices. The PCS controls emissions from fourteen (14) heat-set web offset lithographic printing presses (Emission Points 02 KMMS-517, 03 KMMS-504, 04 KMMS-505, 07 KMMS-532, 08 KMMS-533, 09 KMMS-534, 10 KMMS-535, 11 KMMS-536, 13 KMMS-537, 16 KMMS-538, 17 KMMS-506 (future), 18 KMMS-540 (future), 19 KMMS-539, and 20 KMMS-541).

The PCS consists of two regenerative thermal oxidizers (RTOs) and three recuperative thermal oxidizers operating in parallel along with collection ducting associated with the process devices (printing presses). Solvent vapors from the press dryers are conveyed through common ducts and into the oxidizers. Each component of the oxidizer system maintains a minimum operational combustion chamber set-point temperature at which the minimum required destruction efficiency of 97% is demonstrated through approved performance (stack) testing.

Monitoring Approach:
Monitoring of the PCS for compliance is accomplished by:
A. Recording the operating temperature of the PCS components
B. Periodic external inspection of collection devices and dampers for visible emissions
C. Periodic emissions performance tests as required by the Title V permit.

The elements of the monitoring approach, including indicators to be monitored, indicator ranges, and performance criteria are presented in Table I.

Rationale for Selection of Performance Indicators:
The operating temperatures of the oxidizers were selected because temperature is indicative of the thermal oxidizers' performance. By maintaining the operating temperature at or above a minimum value, the required level of destruction efficiency is maintained.

To further ensure PCS performance, components of the collection system are periodically monitored to ensure that process solvents vapors are properly collected and channeled to the PCS. This is accomplished through periodic visual inspections of by-pass and collection damper operation as well as the PCS stacks.

Emissions performance tests on the oxidizers are conducted once every 5 years per the requirements of the Title V permit to demonstrate compliance with permit conditions (i.e., percent destruction efficiency).

Rationale for Selection of Indicator Ranges:
The selected indicator range for the PCS is as follows: 1) RTOs and KATECs will be operated at a compliance temperature of the most recent performance test. The minimum required operating temperature for the oxidizers will be established based on Title V permit required source testing results. The oxidizer system includes a temperature controller that maintains the desired operating temperature by using an auxiliary burner. The temperature controller is set to maintain the compliance point temperature at or above the established indicator range. Should the temperature in the oxidizers fall more that 50 degrees Fahrenheit below the minimum required set point, the system will shut down (This includes affected process units).

TABLE 1. MONITORING APPROACH FOR RTO SYSTEM

CAM Requirement	Indicator #1	Indicator #2	Indicator #3
I. Indicator	Oxidizer operating temperature.	Visual Inspection of Collection System	Performance test
Measurement Approach	Record the operating temperature of the PCS components.	Visual inspection of collection dampers, by-pass valves and PCS stacks for visible emissions.	Conduct emissions test to demonstrate compliance with permitted destruction efficiency.
II. Indicator Range	An excursion is identified as any finding that the compliance point temperatures for the PCS components does not meet the minimum temperature required by the permit at all times when collecting process solvent vapors.	An excursion is identified as any finding that of visible emissions.	An excursion is identified as any finding that the oxidizer does not meet the permitted destruction efficiency.
Corrective Action	An excursion below the minimum temperature will automatically shut down the system and supported process units. This will initiate activities to correct the excursion. and may trigger a reporting requirement.	Each excursion triggers an assessment of the problem, corrective action and may trigger a reporting requirement.	Each excursion triggers an assessment of the problem, corrective action and may trigger a reporting requirement.
III. Performance Criteria			
A. Data Representativeness	The recording instrument shall be accurate to within 1.0% of temperature measured, or $\pm 1^{\circ}C$, whichever is greater.	Visual inspection logs will be maintained and audited to ensure that activity is conducted.	A test protocol shall be prepared and approved by the regulatory Agency prior to conducting the performance test.
B. Verification of Operational Status	Temperatures recorded manually, on chart paper or electronic media.	Records of the inspections conducted and observations made will be maintained in the EHS department	Not applicable.
C. QA/QC Practices and Criteria	Calibration check of the recording instrument will be	Not applicable.	EPA test methods approved in protocol.

CAM Requirement	Indicator #1	Indicator #2	Indicator #3
	conducted in accordance with OEM recommendations.		
D. Monitoring Frequency	Measured continuously	Weekly	Once every 5 years.
Data Collection Procedure	Automatically recorded on electronic media on a continuous basis. Data can be extracted from archives on demand.	Weekly visual inspection by a member of the EHS and/or facility maintenance department (or their designee)	Per approved test method.
Averaging Period	3 hours.	Not applicable.	Not applicable.
E. Record Keeping	Maintain records of temperature monitoring data and corrective actions taken in response to excursions for a period of 5 years.	Maintain records of the inspections and corrective actions taken in response to excursions in accordance with the compliance section of Donnelley's Preventative Maintenance (PM) program for a period of 5 years.	Maintain a copy of the test report for 5 years or until another test is conducted. Maintain records of corrective actions taken in response to excursions.
F. Reporting	Number, duration, cause of any excursion and the corrective action taken.	Number, duration, cause of any excursion and the corrective action taken.	Submit test protocol to Agency as required.
Frequency	As requested by agency or in the event of excursions, semi-annually.	As requested by agency or in the event of excursions, semi-annually.	For each performance test conducted.

In addition to actions required for environmental performance, PM programs are in place that contain other items unrelated to environmental performance (e.g., operational and safety considerations). These activities will be conducted by maintenance personnel.

Conclusion And Recommendation:

In conclusion, considering the information presented in the two applications, the Division has made a preliminary determination that the proposed PSD project and CAM plan meet all applicable requirements:

- PSD Project - All emissions units are expected to meet the requirements of BACT for VOC for which there will be a significant net emission increase. Additionally, each applicable emission limitation under 401 KAR Chapters 50 to 65 and each applicable emission standard and standard of performance under 40 CFR Parts 60, 61, 63 and 64 will also be met. Also, Emissions from the proposed project will not cause or contribute to a violation of the NAAQS or any Class I or Class II Ambient Air Increments. Ambient air quality impacts on Class II area are expected to be below the significant impact levels. No adverse impact is expected on any Class I area. Impacts on soil, vegetation, and visibility have been predicted to be minimal.

- CAM Plan – The Division agrees with the CAM plan presented by the source in accordance with 40 CFR Part 64 – Compliance Assurance Monitoring (CAM).

The Division has made a preliminary determination to approve the application and issue a draft permit.